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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/003,947

10/30/2001

Lin Li

8371-137

4747

20575

7590

06/04/2004

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EXAMINER

KOSTAK, VICTOR R

ART UNIT

PAPER NUMBER

2614

7

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,947

Applicant(s)

LI ET AL.

Examiner

Victor R. Kostak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 and 3.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. Applicant's election with traverse of invention I in Paper No. 6 is acknowledged. There were no reasons given for the traversal. The requirement is still deemed proper and is therefore made FINAL.

2. Claim 3 is objected to because of the following informalities: the claim recites relay optics in a specific relationship with a reflective element (the specification referring to element 20 as the only reflective element), but the specification seems to describe a field lens 24 as that optical component which has a relationship with element 26 which is not a reflective element. (It is recognized that relay optics is a broader term encompassing a lens such as a field lens). Moreover, in the background of the invention, a relay lens apparently is considered detrimental (line 21 of page 2 of applicant's specification). Appropriate correction is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bradley '981 (cited and provided by applicant) and Bradley '623.

Bradley (Fig. 2) arranges a single reflective LCD panel P (col. 3 lines 59-61), the panel characteristically having individually addressable elements, and projection optics T (col. 4 line 5). In col. 2 line 67 – col. 3 line 5 he states that the light source and associated optics can be that disclosed in SN 08/999, 139 (now US Patent 5,892,623) as an alternative embodiment. That

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light source (referring now to Bradley '623) includes a white light source SW, illumination optics M15R, M15B, M12R, M12B, L15R, L14, L13 and L15G together separate the white light beam into component RGB beams. These color beams are in turn reflected ultimately to panel P (of Bradley '981) by way of reflective elements MR10, MG10, MB10, MB12, MR12 and MG12, thereby meeting claims 1 and 6.

As for claim 8, target T includes a projection lens system (col. 4 line 5), as notes previously.

Regarding claim 9, a polarizing beam splitter L16 is also associated with projection optics T.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (the combination of the two) in view of Stahl et al.

As for claim 4, the optics shown in Bradley '623 also includes integrator I, dichroic mirrors M12R, M12B, mirrors M15B and M15R serve as folding mirrors for each of two color beams, and lenses L17 R, L17G and L17B serve to further direct the respective color beams.

Stahl also discloses a color projection system with components similarly arranged as that of Bradley, and further includes a quarter-wave plate 36 and relay lenses 42 per respective color beam, as well as a folding mirror 23.

It would have been obvious to one of ordinary skill in the art to incorporate field lenses as disclosed by Stahl in that of Bradley to provide telecentric direction which enables tighter optical relationships therefore condensing the overall system size.

As for claim 2, it would further have been obvious to provide means for polarizing light beams (Bradley '623 discusses inclusion of polarization involving integrator I but not means therefor: col. 2 lines 40-48), such as with a well known quarter wave plate as included by Stahl, to thereby realize polarization which enables beams separation into specifically directed color paths.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (the combination of the two) in view of Gauthier et al.

It would also have been obvious to include any suitable optics at respective locations if considerable benefits are expected. Such being a typical consideration of the skilled artisan, it would have been obvious to include relay optics at the exit of beam splitter L16 of Bradley '981, as taught by Gauthier, who in his projection system, notes the benefit of including relay optics at the output of his beam splitter 30 to projection plane 34.

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (the combination of the two) in view of De Vaan.

It would also have been obvious to use any suitable addressable panel, Bradley '981 using a reflective LCD but pointing out that his embodiment is exemplary (col. 3 lines 59-61).

In his projection system that can use a single display panel (col. 8 lines 32-36), De Vaan recognizes that any type of addressable panel can be used, and mentions LCDs and DMDs as option (col. 8 lines 37-39). It would therefore have been obvious to one of ordinary skill in the art to incorporate any LCD type or DMD elements in the system of Bradley to thereby provide options so preferred by the system operator, and thereby expanding display arrangement possibilities.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor R. Kostak whose telephone number is 703 305-4374. The examiner can normally be reached on Monday - Friday from 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.



Victor R. Kostak
Primary Examiner
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VRK